

**REMARKS**

This application has been carefully reviewed in light of the Office Action dated July 10, 2008. Claims 1, 5, 6, 7, 19 and 20 have been amended. Claims 1 to 20 are pending in the application, with Claims 1, 19 and 20 being the independent claims. Reconsideration and further examination are respectfully requested.

Initially, Applicants thank the Examiner for the indication that Claims 5, 6, and 13 contain allowable subject matter and would be allowable if rewritten in independent form. Applicants have not rewritten these claims in independent form at this time, however, since all claims in the application now are believed to be in condition for allowance.

Applicants also wish to thank the Examiner for the telephonic interview conducted on December 24, 2008, with Eugene Worley, reg. no. 47,186, representing Applicants. During the interview, the rejection of claim 1 under 35 U.S.C. § 102(b) was discussed. Applicants argued that claim 1 was not anticipated by the cited references because none of the cited references discloses restricting output torque of an engine in response to detecting an abnormality in the addition device. The Examiner maintained the rejection and suggested amending claim 1 to further define restricting the torque of the engine over the cited references.

While disagreeing with the rejection, Applicants have nevertheless amended claim 1 to expedite prosecution by further defining restricting the output torque of the engine so that a vehicle speed is restricted at or smaller than a predetermined value. Support for this amendment can be found, for example on page 16, of the originally filed application. Independent claims 19 and 20 have been similarly amended.

Claims 1 to 4, 7 to 11 and 15 to 20 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,487,852 ("Murphy"); and Claims 1 to 4, 7 to 12 and 14 to 20

were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,546,720 ("van Nieuwstadt"). Applicants respectfully traverse.

Claims 1, 19 and 20 are patentable over the applied reference because none of the applied references are seen to disclose or suggest at least the features of restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device so that a vehicle speed is restricted at or smaller than a predetermined value.

By restricting or decreasing the output torque of the engine when an abnormality occurs in the addition device so that the vehicle speed is restricted at or smaller than a predetermined value, the engine control apparatuses and method of claims 1, 19 and 20 motivate the driver of the vehicle to promptly repair the addition device. Further restricting the vehicle speed at or smaller than a predetermined value reduces the amount of NO<sub>x</sub> expelled from the engine when the addition device is not operating normally. This is neither taught nor suggested by Murphy or van Nieuwstadt.

Murphy and van Nieuwstadt each concern controlling the addition/injection of a reactant into an engine exhaust. Murphy relies on a temperature difference measured across a catalyst to adjust the injection of reactants into the engine exhaust. See Murphy, Abstract. van Nieuwstadt, on the other hand, relies on the detection of un-reacted portions of a reactant and a substance to control the amount of reactant being added to the substance. However, neither Murphy nor van Nieuwstadt are seen to disclose or suggest restricting or decreasing an output torque of an engine in response to the detection events described in each so that a vehicle speed is restricted at or smaller than a predetermined value.

In the passage (column 4, lines 1-67 and column 5, lines 1-48) of Murphy cited by the final Office Action, Murphy discloses operations of a processor 26 that provides a control signal

18 to a hydrocarbon (HC) injector 16 for controlling the injection of hydrocarbons (reactants) into the exhaust 12 of an engine 14. The control signal 18 of Murphy controls hydrocarbon injection into the exhaust 12, and does not control the output torque of the engine 14 so that the vehicle speed is restricted at or smaller than a predetermined value, as recited in claim 1. This is evident from figure 1 of Murphy which shows the control signal 18 from the processor 26 going to the HC injector 16 to control hydrocarbon injection into the exhaust 12, and not to the engine 14.

The final Office Action appeared to rely in part on the fact that the control signal 18 is a function of engine speed and load. See page 9 of final Office Action. However, the fact that the control signal 18 is a function of engine speed and load means that the amount of hydrocarbon injected into the exhaust 12 (which is controlled by the control signal 18) is a function of engine speed and load. It does not follow from the fact that the control signal 18 is a function of engine speed and load that the control signal 18 controls the output torque of the engine 14 so that a vehicle speed is restricted at or smaller than a predetermined value, as recited in claim 1. To the contrary, the control signal 18 does not control the torque of the engine 14 so that the vehicle speed is restricted at or smaller than a predetermined amount. This is because the controlled injection of hydrocarbons (reactants) by the control signal 18 controls the amount of NO<sub>x</sub> reduced in the exhaust 12, and not the speed of the vehicle.

Therefore, Murphy is not seen to disclose or even suggest at least the features of restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device so that a vehicle speed is restricted at or smaller than a predetermined value.

In the passage (column 9, line 10 to column 10, line 30) of van Nieuwstadt cited in the final Office Action, van Nieuwstadt discloses a process for determining an amount of urea to be injected into the exhaust 12 of an engine 14 by an injector 16, which is controlled by urea control signal  $u(t)$ . The urea control signal  $u(t)$  controls the amount of urea injected into the exhaust 12 of the engine 14 and does not control the output torque of the engine 14 so that the vehicle speed is restricted at or smaller than a predetermined value. This is evident from figure 1 of van Nieuwstadt, which shows the urea control signal  $u(t)$  going to the urea injector 16 and not to the engine 14 of van Nieuwstadt.

The final Office Action appeared to rely in part on the fact that the urea control signal  $u(t)$  may be dependent on engine speed and load. See page 11 of final Office Action. However, the fact that the urea control signal  $u(t)$  may be dependent on engine speed and load means that the amount of urea injected into the exhaust (which is controlled by the urea control signal  $u(t)$ ) is a function of engine speed and load. It does not follow from the fact that the urea control signal  $u(t)$  is a function of engine speed and load that the urea control signal  $u(t)$  controls the output torque of the engine 14 so that the vehicle speed is restricted at or smaller than a predetermined value. To the contrary, the urea control signal  $u(t)$  does not control the torque of the engine 14 so that the vehicle speed is restricted at or smaller than a predetermined amount. This is because the controlled injection of hydrocarbons urea by the urea control signal  $u(t)$  controls the amount of NO<sub>x</sub> reduced in the exhaust, and not the speed of the vehicle.

Therefore, van Nieuwstadt is not seen to disclose or even suggest at least the features of restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device so that a vehicle speed is restricted at or smaller than a predetermined value.

Therefore, independent Claims 1, 19 and 20 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 102(b) rejections of Claims 1, 19 and 20 are respectfully requested.

The other claims rejected in the application are dependent, either directly or indirectly, from the independent claims discussed above and therefore are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendment and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502203 and please credit any excess fees to such deposit account.

Respectfully submitted,

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